CLAIMS

1. An optically triggered interactive apparatus, comprising scene capture means arranged to capture an image of a scene, target selection means arranged to select a target area within a reference image of the scene, detection means arranged to detect the presence of light incident within the target area of an active video image captured by the scene capture means, the detection means is arranged to determine an outer extent of an illuminated area, illuminated by a light source, within the scene, and the detection means being arranged to output a trigger signal to processing means when a given proportion of the target area forms part of the illuminated area and/or when a given proportion of the illuminated area lies within the target area.

2. Apparatus according to Claim 1 wherein the light source is any one, or more, of the following: broad band, directional, spatially extensive.

3. Apparatus according to either of Claims 1 or 2 wherein the scene capture means is a video camera, a CCD device or the like.

4. Apparatus according to any preceding claim wherein the target selection means is a graphical user interface (GUI).

5. Apparatus according to any preceding claim wherein the detection means is arranged to compare the reference image with the active image in order to detect the presence of light incident with the target area.

6. Apparatus according to any preceding claim wherein the detection means is arranged to track movement of at least one beam of light incident upon the scene.

7. Apparatus according to any preceding claim wherein the detection means is arranged to monitor either, or both, of an intensity profile or, and, a chromatic profile of a light source, incident upon the scene.

8. Apparatus according to any preceding claim wherein the detection means is arranged to track a given light source, incident upon the scene based upon whether, one, or both, of the intensity profile or, and, the chromatic profile of the light source incident upon the scene.

9. Apparatus according to any preceding claim wherein the light source is arranged to be modulated.

10. Apparatus according to any preceding claim wherein the light source is a torch.

11. Apparatus according to any preceding claim wherein the detection means is arranged to increment a counter each time a given light source passes over a given target area.

12. Apparatus according to Claim 11 wherein the detection means is arranged to output a trigger signal that is dependent upon the value of the counter.

13. Apparatus according to Claim 12 wherein the actuation means is arranged to output an audio, a visual or an audio-visual rich media file that is dependent upon the trigger signal output by the detection means.

14. Apparatus according to any preceding claim wherein the scene capture means include the detection means.

15. Apparatus according to any preceding claim wherein the trigger signal are transmitted wirelessly over a local area network (WLAN) to the actuation means.

16. Apparatus according to any preceding claim wherein the actuation means is arranged to output an audio, a visual or an audio-visual rich media file upon receiving the trigger signal.

17. Apparatus according to any preceding claim comprising a plurality of image capture means, each of which are arranged to capture an active image the scene from different angles.

18. Apparatus according to Claim 17 wherein the detection means are be arranged to receive inputs from each of image captured means

19. Apparatus according Claim 18 wherein the detection means is arranged to output a trigger signal to the actuation means if one or more target areas is illuminated in at least one of the active images.

20. Apparatus according to any preceding claim wherein the scene is a virtual scene and the reference image is a map of the virtual scene.

21. A method of optically triggering an interactive apparatus comprising the steps of:

i) defining at least one target area within a reference image of a scene;

ii) illuminating a portion of the scene with a light source;

iii) capturing an active image of the scene;

iv) determining a boundary of an area of illumination of the light source;

v) determining whether a predetermined fraction of the area of illumination illuminates at least part of a target area; and

vi) outputting a trigger signal if the light source illuminates at least a part of the target area on a predetermined manner.

22. The method of Claim 21 including selecting the target areas by means of a graphical user interface.

23. The method of either of Claims 21 or 22 including comparing the reference image with the active image in order to determine if a target area is at least partly illuminated.

24. The method of any one of Claims 21 to 23 including identifying a light source illuminating an area of the scene by means of either an intensity profile or a chromatic profile.

25. The method of any one of Claims 21 to 24 including tracking an area of illumination within the scene.

26. The method of any one of Claims 21 to 25 including tracking a plurality of light sources illuminating areas of the scene.

27. The method of any one of Claims 21 to 26 including incrementing a counter each time a trigger signal is generated by a given light source illuminating at least part of a target area.

28. The method of Claim 27 including outputting a differing trigger signal dependent upon the value of the counter.

29. The method of any one of Claims 21 to 28 including outputting an audio, a visual or an audio-visual rich media file in response to a processor receiving the trigger signal.

30. The method of any one of Claims 21 to 29 including outputting the trigger signal via a wireless local area network (WLAN) to the processor.

31. The method of any one of Claims 21 to 30 including capturing a plurality of active images of the scene from a number of image capture means spaced thereabout.

32. A user interface located at a user device for use in selecting a target area and a corresponding output file for an optically activated interactive apparatus comprising:

an input mechanism for selecting an area of an image displayed upon a screen of the device as a target area;

an input mechanism for selecting the output file corresponding to the selected target area and/or another aspect of the image, the target area and output file having a link generated therebetween; and

an output mechanism arranged to output the output file upon a trigger condition being fulfilled.

33. A user interface according to Claim 32 wherein the trigger condition is an image capture means capturing an image of the target area being at least partially illuminated by a broad beam light source

34. A method of determining user demographic statistics comprising the steps of:

i) providing each user with an identifiable light source;

ii) recording demographic information about each user;

iii) providing an optically triggered interactive apparatus according to any one of Claims 1 to 20;

iv) recording each time a target area is triggered by a user; and

v) identifying each user by correlating their identifiable light source with their demographic information.

35. The method according to Claim 34 including recording how long each target area is illuminated by a users light source.

36. The method according to either of Claims 34 or 35 including storing the demographic data and the recorded data for a period of days, weeks, or months.

37. A method of defining a target area, for use with an apparatus in accordance any one of Claims 1 to 20, within a scene comprising:

i) displaying a reference image upon a screen;

ii) selecting an area of a screen as a target area; and

iii) confirming the selection of the target area.

38. The method of Claim 37 including using a user manipulated device such as a keyboard, mouse, trackball or touchscreen to select the target area from the screen.

39. A computer readable medium having stored therein instructions for causing a processing unit to execute any one of the methods of any one of Claims 20 to 38.

40. A computer readable medium encoding a programme of instructions which when run upon a processor cause the processor to act as the detection means of any one of Claims 1 to 20.